Section 5 Asset Class – Intelligent Traffic Signs:

The Intelligent Traffic Signs asset class consists of message boards with intelligent electronic components that can display variable rather than static messages. It includes:

- ✓ Dynamic Message Signs
- ✓ Radar Speed Signs

Budgets for the assets in this asset class are included in a combined general maintenance budget of $6.8 million for 2010 which also includes the assets in the Traffic Signal System asset class.

Intelligent traffic signs are maintained by Traffic Maintenance crews at the direction of the Traffic Signal Operations group in the Traffic Management Division.

Dynamic Message Signs:

A dynamic message sign is a variable message board that provides motorists with valuable information about traffic conditions or activities that may impact their trip. It can be pre-programmed, as well as accessed remotely to update messages with current up-to-the-minute information.

SDOT also has parking guidance signs that display dynamic messages regarding parking availability in locations throughout the Central Business District.

Dynamic message signs were installed starting in 2000.

Current Inventory and Anticipated Annual Growth:

There are thirty-five (35) dynamic message signs in the city of Seattle. Uses include special event messaging, warnings regarding the Spokane Street bridge openings, and parking information messages.

New dynamic message signs are expected as the Alaskan Way viaduct is taken out of service. Recent growth has been at the rate of ten (10) per year on average. The estimated replacement value of dynamic message signs is $3,750,000 in current dollars.

Condition Ratings:

A rigorous condition assessment has not been conducted on the signs, but 80% of the inventory is three years old or less. Given the lifespan, these considered as in "as-new" (good) condition.

Dynamic Message Sign at the Low-Level Spokane Street Bridge

Useful Life and Life Cycle Costs:

A newly installed dynamic message sign has an estimated life of fifteen (15) years and costs approximately $107,000 for acquisition and installation. When a dynamic message sign reaches half its useful life, it generally degrades to fair condition. If it degrades to poor condition, the sign will require replacement in three (3) years or less.

Since these are newer assets, maintenance costs are just being recorded, and full life cycle costs have not yet been determined.

At the end of its useful life, when a dynamic message sign is replaced, the replacement cost is estimated to be approximately $165,000

Maintenance Approach:

The maintenance approach for dynamic message signs is to respond to damage or operational problems as reported and according to maintenance priorities. Limited maintenance has been performed on these devices since the original installation date.

As these are newer devices, a preventive maintenance program has not yet been established for these devices. Condition assessment is planned to coincide with preventive maintenance checks.

Dynamic message signs are expected to operate correctly 95% of the scheduled up-time.

Current Performance Measurements:

Performance measures have not been developed for dynamic message signs.

Funding Requirements and Unmet Funding Needs:

A lower maintenance priority, coupled with the limited maintenance that has been performed, has not provided the information that would allow an accurate assessment of funding requirements for these devices.

Radar Speed Signs:

A radar speed sign is a device that provides motorists with feedback as to the speed they are traveling as they approach the sign. This feedback helps motorists comply with speed limits and lowers the frequency of speeding vehicles and the attendant safety risks associated with speeding vehicles. The devices can be powered either by electricity or by solar power.

Current Inventory, Condition Ratings, and Anticipated Annual Growth:

There are twenty (20) radar speed signs in the city of Seattle. These devices were installed starting in 2006.

The department did a field check inventory and condition assessment in 2009 and established that 100% are in good condition.

Anticipated annual growth has not been determined.

The estimated replacement value of radar speed signs is $150,000 in current dollars.

Radar Speed Sign

Useful Life and Life Cycle Costs:

A newly installed radar speed sign has an estimated life of ten (10) years. The acquisition and installation costs are $6,000-$8,000 per location.

When a radar speed sign has been in operation about seven (7) years, it generally degrades to fair condition. If it degrades to poor condition, the sign will require replacement in approximately one (1) year.

Since these are newer assets, maintenance history has not yet been established, and full life cycle costs have not yet been determined.

Maintenance Approach:

The maintenance approach for radar speed signs is to respond to damage or operational problems as reported and according to maintenance priorities.

A preventive maintenance program has not yet been established.

Radar speed signs are expected to operate correctly 98% of the scheduled up-time.

Current Performance Measures:

Performance measures have not been developed for radar speed signs.

Funding Requirements and Unmet Funding Needs:

Funding requirements for the maintenance of these devices have not yet been established. After a maintenance program has been established, funding requirements will be available.